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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/664,296 | 09/17/2003 | Toshiki Hirano | HSJ920030230US1 | 4582 |

7590 05/23/2006

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| EXAMINER |
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KAPADIA, VARSHA A

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| ART UNIT | PAPER NUMBER |
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2627

DATE MAILED: 05/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------------------|--------------------------------------|--|
| Office Action Summary | Application No. 10/664,296 | Applicant(s) HIRANO ET AL. | |
| | Examiner Varsha A. Kapadia | Art Unit 2627 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 March 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This office action is responsive to communication filed on March 06, 2006.

Rejection Under 35 U.S.C. 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 13-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Imaino et al (5,929,326).

With regards to claim 1, Imaino et al disclose a disk drive (see fig.7) comprising: a base casting and at least one disk surface coupled to the base casting (See fig.7 element 100 and disclosure thereof); an actuator assembly for arcuately positioning at least one slider over the disk surface (See fig.7 element 138, 134 and disclosure thereof); a suspension load beam having a dimple (see fig.1 elements 18,15, 20 and disclosure thereof); a laminated flexure (see figs. 1-2 element 17,35,36,39, figs. 3-4 and disclosure thereof and col.4 lines 33-35) coupled to the suspension load beam (18), the flexure having a surface adapted to receive a slider and a surface adapted to contact dimple (see fig.3 element 63, fig.4 element 73 and disclosure thereof; and the paragraph bridging cols. 4 and 5), the flexure including a head-disk interaction sensor (see fig.3 element 60,68; fig.4 elements 70,78 and disclosure thereof) outputting a sensor signal.

With regards to claim 2, Imaino et al disclose a head-disk interaction sensor is an accelerometer (see col.1 lines 3-6 and col.3 lines 12-32, elements 60,68,70,78 and disclosure thereof).

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With regards to claims 3 and 5, Imaino et al disclose a head-disk interaction sensor further includes a pressure sensor sensing pressure between the flexure and the dimple (see col. 1 lines 3-6 and lines 48-54 and col.3 lines 12-32, elements 60,68,70,78 and disclosure thereof).

With regards to claims 4, 6 and 10-12, Imaino et al disclose that the sensor includes a piezoelectric layer and a conductive layer, each being formed as a layer of the laminated flexure and being patterned to correspond to a top surface of a back portion of the slider (see figs. 3-4 disclosure thereof, the paragraph bridging cols. 4 and 5 and col.5 line 57 to col.6 lines 28).

With regards to claims 8-9, Imaino et al disclose that the piezoelectric material layer and the conductive material layer are patterned to be a various shapes (see col.3 lines 11-15 and col.4 lines 12-22).

With regards to claim 7, Imaino et al disclose that the piezoelectric material layer generates voltage between a top and bottom portion of the layer when the slider contacts the disk (see col. 3. lines 20-32, figs. 5-7 and disclosure thereof).

With regards to claims 13-22 Imaino et al discloses write inhibit circuit for inhibiting write operation responsive to sensor signal including a filter circuit conditioning the sensor signal; (see col.1 lines 3-6; wherein the U.S. Pat. No. 5,423,207 incorporated by reference is relied upon for filter circuit capabilities including low-pass filter; high-pass filter, bandpass filter and passband filter limitations as recited in the claims 13-22.)

Response To Remarks

Applicant's arguments, see remarks and terminal disclaimer, filed 3/6/06, with respect to the rejection(s) of claim(s) 1-22 under Double patenting have been fully considered and are

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persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of U.S. Patent 5,929,326.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Varsha A. Kapadia whose telephone number is (571) 272-7557. The examiner can normally be reached on Mon Tue and Thurs. from 6:30 AM to 2:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrea Wellington can be reached on 571 272 4483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


VK


ANDREA WELLINGTON
SUPERVISORY PATENT EXAMINER